

Clean Water Act Monitoring Programs



CWA Water Quality Monitoring



- Elements of an Adequate State/Tribal Monitoring Program
- Consolidated Assessment and Listing Methodology
- Section 106 Grants

CWA Water Quality Based Approach

- CWA Water Quality Monitoring supports:
 - Water Quality Standards
 - NPDES Permits
 - Lists of Impaired Waters
 - Total Maximum Daily Loads
 - Nonpoint Source Programs
 - National Water Quality Assessment Report

Elements of Adequate State/Tribal Monitoring Program

- Provide a framework for upgrading monitoring programs
- Assist states/tribes in identifying strengths and weaknesses of monitoring programs
- Promote consistent Agency assessments of state/tribal programs

Why is EPA Developing 10 Elements?

- Clean Water Act requires states receiving section 106 funds have “adequate” monitoring programs
- State-by-state differences impede credible statements about water quality over time and across the nation

What are the 10 Elements?

- Monitoring Program Strategy
 - A comprehensive strategy addressing all waters and all waterbody types
- Quality Assurance
- Monitoring Objectives
 - address CWA objectives: establish water quality standards determine water quality status and trends identify impaired waters identify causes and sources of problems; implement NPDES permits

The 10 Elements, cont.

- Monitoring Design
 - Comprehensive coverage
- Core Indicators
 - Minimum set of indicators including chemical, physical and biological
- Data Management
- Data Analysis/Assessment

The 10 Elements, Cont

- Reporting
- Programmatic Evaluation
- General Support and Infrastructure

How will this be implemented?

- Agency work with States/Tribes to upgrade programs where/if deficiencies exist
- Changes implemented within ten years
- Milestones negotiated and tracked through §106 workplans/Performance Partnership Agreements

Consolidated Assessment and Listing Methodology

- Documented, defensible water quality assessments and decisions about Water Quality Standards attainment
- Addresses questions regarding relationship among WQS, 305(b) assessments, and 303(d) lists of impaired waters

Benefits of CALM:

- Improve the completeness and accuracy of 305(b) assessments and 303(d) lists
- Reduce the burden of 2 separate reports
- Expand opportunities for stakeholders to participate in water quality monitoring and assessment

What is the scope of CALM?

- Phase 1 includes:
 - Water Quality Standards attainment decisions for all assessment activities, including 305(b), 303(d), and NPS,
 - Comprehensive monitoring coverage for all waterbody types including wetlands, lakes, estuaries, coastal waters
 - Data management and presentation

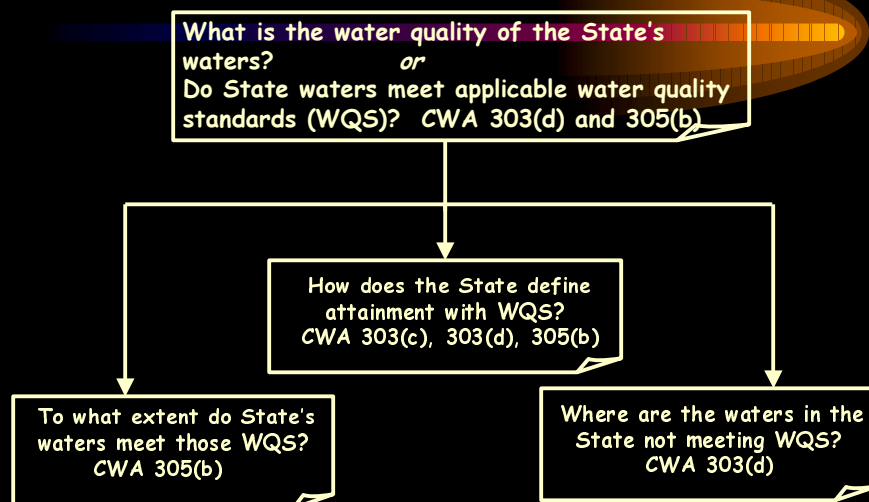
What is the scope of CALM?

- Phase II will address:
 - Causes and sources of impairment
 - Consolidated reporting (other monitoring and assessment programs, e.g., source water, NPS)
 - Special supplements
 - Fish Advisories
 - Nutrients
 - Pathogens
 - Sedimentation

How is EPA developing CALM?

- Building from the work of 305(b) Consistency Workgroup, ASIWPCA, ITFM
- Federal and State Workgroup
- Stakeholder Meetings

Consolidated Assessment and Listing Methodology Framework for Phase 1



Part A: Attainment Decisions

- What's your general approach for making attainment decisions?
- How do you interpret each type of data?
 - Chemical
 - Biological
 - Toxicity
 - Pathogen
 - Habitat and others
- How do you integrate multiple types of data?

Guiding Principles for Part A

- Applicable WQS are the basis for decisions
- Use multiple lines of evidence, as applicable (biological, physical and chemical)
- Describe decision objectives and approach
- Document results, including error rates, confidence and power of data sets

Describe objectives and approach

- What are your attainment questions?
 - Define your refined hypotheses
 - Define your target population
 - Identify your statistical parameters
- What is your sampling protocol?
 - Describe ideal data needs
 - Address use of 3rd party data
- Does data meet ideal needs?
 - Describe adjustments made to support decisions

Describe how data interpreted

- What types of standards do data support?
 - Describe designated uses numeric criteria, narrative criteria, and attainment thresholds
- How is data quality defined, evaluated and documented?
 - Describe documentation needs, recognizing severe problems may be documented with rudimentary tools
- How is attainment assessed with thresholds?
 - Describe analytical approaches for interpreting data and information to distinguish attainment from impairment

Describe how data integrated

- What types of criteria and data contribute to assessment of designated use?
- How are data integrated to determine whether use is attained or impaired?
- How are discrepancies in findings among different types of data resolved?

Part B: Monitoring Design

- Overview of design framework
- Select metrics or indicators of WQS attainment status
- Design network to assess state-wide WQS attainment status
- Intensify monitoring network to identify impaired waters

Guiding Principles for Part B

- Achieve comprehensive assessment
- Use monitoring results and ancillary information to guide additional monitoring
- Base follow up monitoring design on spatial scale needed to develop TMDL

Nested Monitoring Designs

- Comprehensive Assessment
 - Does not mean all water is measured for all standards
 - Does mean use of a valid method to statistically infer status of waters statewide
- Listing Impaired Waters
 - Follow up design uses monitoring data and ancillary information
 - Design targets spatial scale needed to determine whether TMDL is needed

Part C: Data Management and Reporting-- Guiding Principles

- Attainment decisions reported against applicable water quality standards
- Streamlined electronic reporting for 305(b) and 303(d)
- All results linked to a geographic extent / NHD

Part C: Data Management and Reporting-- Contents

- What are the attainment results for each applicable use?
- Where were the waters assessed?
- Why were waters not attaining their uses?
 - Identification of pollutants and potential sources
- When was the attainment result determined?
- How was the attainment result determined?
 - Type and level of assessment information

CALM Schedule

- April 23, 2001 -- Draft Guidance to States
- May 21, 2001 -- State/EPA workgroup meeting
- June 15, 2001 -- Notice of Availability
- July 11, 2001 -- Stakeholder Meeting
- July 31, 2001 -- Final Document

Section 106 Funds

- Section 106(e): grants contingent upon State annually updating its monitoring data and submitting 305(b) report
 - annual updates to STORET
 - submission of 305(b) electronic database and narrative report

For more information...

- Call Susan Gilbertson at 202-260-1188 or Susan Holdsworth at 202-260-4743
- Check the website at www.epa.gov/owow/monitoring/calm.html